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EXAMINER	
RASHID, DAVID	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/621,402	PFISTER, MARCUS	
	Examiner	Art Unit	
	David P. Rashid	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/18/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

All of the examiner's suggestions presented herein below have been assumed for examination purposes, unless otherwise noted.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d) (Application # 102 32 682.7, filed 7/18/2003), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "a", "b", and "c" has been used to designate both the steps of FIG. 1 (which is disclosed as "step a", "step b", and "step c") as well as in making reference to the images of FIG. 4A, FIG. 4B, and FIG. 4C (which is disclosed as "image a", "image b", and "image c") – it is suggested to either:

(i) create new reference characters for "image a", "image b", and "image c" to reflect in both the drawings and specification; or

(ii) change "image a" to "FIG. 4A image", as with the other two images b and c.

3. The drawings are objected to because of the following:

(i) FIG. 3 contains the number "1720" on field 2 and it is unclear as to whether this is a reference numeral, a symbol, or something else – suggest deleting.

4. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The disclosure is objected to because of the following informalities:

(i) Page 10, line 3 cites "figure b" but it is unclear whether this is in reference to FIG. 4B, FIG. 5B, or if it is a typo – suggest changing to properly identify the figure in question.

Appropriate correction is required.

Claim Objections

6. 37 CFR 1.75(a) reads as follows:

> The specification must conclude with a claim particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention or discovery.

7. **Claims 1 (and its dependents)** and **34 (and its dependents)** are objected to under 37 CFR 1.75(a) because of the following:

(i) The preamble contradicts the body of the claim when suggesting a method for "nonmagnetic" identification of an organism. As disclosed and supported in the specification,

the invention relies on light to optically detect a marking code of a marking element on the organism to be examined. It is well known to one of ordinary skill in the art that light is electromagnetic radiation with a specific wavelength that is visible to the eye, thus light consists of an electric and magnetic component further concluding that "nonmagnetic" identification is incorrect. It is suggested to replace "nonmagnetic identification" with "optical identification".

(ii) The word "evaluatable" used throughout the claims is unidentifiable in any standard dictionary and is not considered a proper word. The specification does not support what is meant by "evaluatable", only citing "machine evaluatable criteria" in the disclosure which remains unclear. It is suggested to remove this word and re-phrase "machine evaluatable criteria".

8. **Claims 15, 24,** and **30** are objected to under 37 CFR 1.75(a) for containing abbreviations that do not properly identify the element in question – suggest fully spelling out the abbreviation followed by the abbreviation itself the first time the abbreviation is used in the claims.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

10. **Claims 1 through 39** are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for all organisms capable of being subjected to the marking element, does not reasonably provide enablement for those organisms (such as those organisms from which the marking element is larger than that of the organism itself) that cannot physically be subjected to the marking element. By definition, an organism means an individual form of

life, such as a plant, animal, bacterium, protist, or fungus; a body made up of organs, organelles, or other parts that work together to carry on the various processes of life. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to enable the invention commensurate in scope with these claims when implying all organisms.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

12. **Claims 1, 2, 3, 4, 5, 6, 7, 11, 20, 21, 22, 25, 34, 35, 36, 37, 38** and **39** are rejected under 35 U.S.C. 102(b) as being anticipated by Ekstrom (US 5,324,940 A).

Regarding **claim 1**, Ekstrom discloses a method for nonmagnetic identification of an organism ("An object of the present invention is to provide an improved method for identifying macro-organisms, especially fish, by tagging", column 1, line 51), comprising:

optically detecting (FIG. 2B, element 506) a marking code (column 1, lines 63 – 65) of a marking element (FIG. 2B, element 304) on the organism (FIG. 2B, element 101) to be examined; and,

evaluating the detected marking code to identify the organism carrying the marking element, wherein the marking code includes a plurality of regions including at least three different optically detectable and machine evaluatable criteria (column 4, lines 31 – 34; column 3, lines 7 - 11 wherein the different optically detectable regions are the separate pigments and/or dyes on the tag).

Regarding **claim 2**, Ekstrom discloses the method as claimed in claim 1, wherein the optically detectable and machine evaluatable criterion include intensity of at least one of reflection, absorption, diffraction and refraction of light (FIG. 5; column 3, lines 7 – 11; column 4, lines 45 – 51 with regard to absorption of light).

Regarding **claim 3**, Ekstrom discloses the method as claimed in claim 1, wherein the optically and machine evaluatable criterion include at least one of wavelength (FIG. 5, spectral channels) of at least one of: reflection, absorption and diffraction of light, color and fluorescence of regions of the marking element (FIG. 5; column 3, lines 7 – 11; column 4, lines 45 – 51 with regard to absorption of light).

Regarding **claim 4**, Ekstrom discloses the method as claimed in claim 1, wherein the differences in at least one of the intensity of at least one of the reflection, absorption, diffraction and brightness of light, wavelength thereof, color and fluorescence at the borders of respectively neighboring regions of the marking element is used as the marking code (Column 1, lines 63 – 65 in combination with the references/arguments of claim 3. If the tag (marking code) is the mixture of fluorescent pigments, then both

(i) the borders of respective neighboring pigment regions on the tag and

(ii) their respective differences in absorbed wavelength intensity

are included in the marking code since the borders of respective neighboring regions that ultimately contribute to the fluorescent pigments on the tag when the tag (including the borders and their differences in absorbed wavelength intensity) emits fluorescent light to be graphed in FIG. 5.).

Regarding **claim 5**, Ekstrom discloses the method as claimed in claim 1, wherein the regions are encoded by a plurality of N different brightnesses (column 3, lines 7 - 11 wherein in FIG. 5, N = 4 differential colored pigments for encoding. Each colored pigment gives off its own unique amount of light, or brightness.).

Regarding **claim 6**, Ekstrom discloses the method as claimed in claim 1, wherein at least one of the regions and region boundaries are encoded by N^m numbers, wherein N and m are integers (column 6, lines 18 - 21).

Regarding **claim 7**, Ekstrom discloses the method as claimed in claim 1, wherein the optical determination and machine evaluation of the marking element is performed at least semi-automatically (column 5, lines 41 - 50), and wherein the optical determination and machine evaluation of the marking code is performed fully automatically (column 5, lines 48 -50 wherein the optical determination and machine evaluation of the marking code is performed by the reading device 500.).

Regarding **claim 11**, Ekstrom discloses the method of claim 1,

wherein image data are segmented into segments (FIG. 5, spectral channels Blue, Green, Yellow, Red) with the aid of predeterminable image data properties (FIG. 5, wavelength (nm) ranges),

wherein coherent regions are formed with the aid of an assignment of the segments with the aid of predeterminable assignment criteria (FIG. 5, actual calculated fluorescent excitation of the tag within each spectral channel is a "coherent region"; column 7, lines 19 - 21),

wherein coherent regions are filtered (FIG. 2b, element 505; column 5, lines 45 - 48), and

wherein coherent regions are at least one of analyzed and evaluated with the aid of predeterminable analytical criteria (column 7, lines 53 - 60).

Regarding **claim 20**, Ekstrom discloses the method as claimed in claim 1, wherein the optically detectable and machine evaluatable criterion include brightness of regions of the marking element as the marking code (As mentioned in claim 5, each colored pigment in the tags as disclosed by Ekstrom give off its own unique amount of light, or brightness. "The identity or proportions of colorants present in a given tag are determined by measuring the spectrum of the fluorescent light emitted by the tag. These observations are then interpreted as corresponding to some discrete code, such as a number, identifying the animal tagged as belonging to some particular group.", column 4, line 35.).

Regarding **claims 21** and **22**, claim 4 recites identical features as in claims 21 and 22. Thus, references/arguments equivalent to those presented above for claim 4 are equally applicable to claims 21 and 22.

Regarding **claim 25**, Ekstrom discloses the method of claim 1, for in vivo small animal imaging identification (FIG. 2b, element 101; column 1, lines 51 - 53).

Regarding **claim 34**, Ekstrom discloses a method for nonmagnetic identification of an organism (refer to references/arguments cited in claim 1), comprising:

placing a marking element, including an optically detectable marking code, on an organism to be examined (refer to references/arguments cited in claim 1), wherein the detectable marking code is evaluatable to identify the organism (refer to references/arguments cited in claim 1), and wherein the marking code includes a plurality of regions including at least three different optically detectable and evaluatable criteria (refer to references/arguments cited in claim 1).

Regarding **claim 35**, claim 2 recites identical features as in claim 35. Thus, references/arguments equivalent to those presented above for claim 2 are equally applicable to claim 35.

Regarding **claim 36**, claim 3 recites identical features as in claim 36. Thus, references/arguments equivalent to those presented above for claim 3 are equally applicable to claim 36.

Regarding **claim 37**, claim 4 recites identical features as in claim 37. Thus, references/arguments equivalent to those presented above for claim 4 are equally applicable to claim 37.

Regarding **claim 38**, claim 5 recites identical features as in claim 38. Thus, references/arguments equivalent to those presented above for claim 5 are equally applicable to claim 38.

Regarding **claim 39**, claim 6 recites identical features as in claim 39. Thus, references/arguments equivalent to those presented above for claim 6 are equally applicable to claim 39.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. **Claims 8, 9,** and **15** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Scofield et al. (US 5,576,949 A).

Regarding **claim 8**, while Ekstrom discloses the method as claimed in claim 7, Ekstrom does not disclose wherein, for the purpose of fully automatic determination, the edge gradients of neighboring regions of the marking element are optically determined.

Scofield discloses system for animal evaluation through image acquisition ("The present invention provides an arrangement to evaluate animals to determine characteristics or traits thereof.", column 2, line 53) that teaches wherein, for the purpose of fully automatic determination, the edge gradients of neighboring regions of the image are optically determined (column 37, lines 52 - 60).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the method of Ekstrom to include wherein, for the purpose of fully automatic determination, the edge gradients of neighboring regions in an image are optically determined as taught by Scofield of the marking element as disclosed by Ekstrom "...to find the element thereof marking the boundary between the animal portion of the stored optical image representation...", Ekstrom, column 37, line 53.

Regarding **claim 9**, Ekstrom discloses wherein foreground regions belonging to at least one of a component (components being the spectral channels of FIG. 4 and FIG. 5) and a criterion (column 7, lines 53 – 60, criterion being the "larger of the concentration measures is a natural choice") are combined to form fixed units (column 4, lines 38 - 44 wherein the form fixed units are in reference to the numbers).

Regarding **claim 15**, while Ekstrom discloses the method as claimed in claim 1 wherein a detector is used for optically detecting the marking code, Ekstrom does not disclose wherein that the detector is a CCD camera is used for optically detecting the marking code.

Scofield discloses system for animal evaluation through image acquisition (refer to references/arguments cited in claim 8) that teaches using a CCD camera (column 6, lines 1 – 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the detector of Ekstrom to be a CCD camera as taught by Scofield for optically detecting the marking code of Ekstrom because "[n]ormal acquisition of the data in the camera CCD array and storing in image capture card 41 typically takes from 17 to 33 milliseconds...", Scofield, column 33, line 36.

15. **Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Scofield et al. (US 5,576,949 A), in view of Murashita et al. (US 5,485,213 A)

Regarding claim 10, while Ekstrom in view of Scofield disclose the method as claimed in claim 9, Ekstrom in view of Scofield does not teach that the combination is undertaken by run length encoding.

Murashita discloses a method and apparatus for encoding and decoding image data (column 2, lines 64 – 67) wherein the block information is combined and encoded using run length encoding (column 9, lines 5 - 15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the combination of Ekstrom in view of Scofield to be undertaken by run length encoding as taught by Murashita "...to reduce a code amount in place of the one-dimensional bit stream.".

16. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Grimaud (US 5,347,594 A).

Regarding **claim 12**, while Ekstrom discloses the method as claimed in claim 11, Ekstrom does not teach that the segmentation of the image data is carried out with the aid of the watershed algorithm.

Grimaud discloses a method of image analysis (column 1, lines 5 – 7) wherein image data segmentation may be carried out with the aid of a watershed algorithm (column 1, lines 23 - 41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the segmentation of Ekstrom to be carried out with the aid of a watershed algorithm as taught by Grimaud to provide "...a method of contouring objects in an image...", Grimaud, column 1, line 23.

17. **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Hsu (US 5,640,468 A).

Regarding **claim 13**, while Ekstrom discloses the method as claimed in claim 11, Ekstrom does not teach wherein the segmentation of the image data is carried out by region growing.

Hsu discloses a method for identifying objects and features in an image (column 4, lines 2 – 4) wherein image data segmentation is carried out by region growing (column 12, lines 44 - 49).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the segmentation of Ekstrom to be carried out by region growing as taught by Hsu because "[t]his one-pass region-growing segmentation yields a segmentation map that corresponds to a visual segmentation of the color map", Hsu, column 12, line 46 and because it "...can be performed such a buffering or connecting broken components to generate new images.", Hsu, column 13, line 34.

18. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Erler et al. (US 5,687,251 A).

Regarding **claim 14**, while Ekstrom discloses the method as claimed in claim 11, Ekstrom does not teach wherein the segmentation of the image data is carried out by binarization.

Erler discloses a method and apparatus for providing preferentially segmented digital images (column 2, lines 23 – 27) wherein image data segmentation is carried out by binarization (column 2, lines 13 - 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the segmentation of Ekstrom to be carried out by binarization as taught by Erler so that "...the objects of interest can be accurately measured.", Erler, column 2, line 18.

19. **Claims 16, 17, 18, 19, 23, 31** and **32** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Haw et al. (US 4,750,490 A).

Regarding **claim 16**, while Ekstrom discloses an apparatus for identifying an organism (column 1, line 51) including a marking element (FIG. 2b, element 304), comprising:

a sensor for optically detecting a marking code of the marking element (FIG. 2b, element 506); and

an evaluation device for evaluating the detected optical signal, wherein the marking element is a marking element including at least one marking code (refer to references/arguments cited in claim 1), the marking code including a plurality of regions with optically detectable and machine evaluatable criteria (refer to references/arguments cited in claim 1), Ekstrom does not teach wherein the marking element is of an annular shape.

Haw discloses a method for tagging fish for identification (column 2, lines 19 - 22), wherein the marking element is of an annular shape (column 2, lines 58 - 61).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the marking element of Ekstrom to be an annular marking element as taught by Haw "...to facilitate shallow implantation, retention and visibility.", Haw, column 2, line 57.

Regarding **claims 17** and **18**, while the combination between Ekstrom and Haw disclose the apparatus as claimed in claim 16, the combination does not disclose wherein the annular marking element includes a nonmagnetizable material, including plastic.

Haw discloses a method for tagging fish for identification (column 2, lines 19 - 22), wherein the annular marking element includes a nonmagnetizable and plastic material (column 2, lines 58 – 61. Plastic is a nonmagnetizable material.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the marking element of Ekstrom to be a plastic nonmagnetizable material as taught by Haw to not subject the marking element to magnetic force which may impair the disclosed invention of Ekstrom mechanically and even biologically, as well as the fact "...plastics have been successfully implanted in small coho salmon and other fishes.", column 2, line 59.

Regarding **claim 19**, Ekstrom discloses a method for in vivo small animal imaging identification, using the apparatus of claim 16 (refer to references/arguments cited in claim 25).

Regarding **claim 23**, Ekstrom discloses the apparatus of claim 16, wherein the marking code includes a plurality of regions including at least three different optically detectable and machine evaluatable criteria (refer to references/arguments cited in claim 1).

Regarding **claim 31**, while Ekstrom discloses a marking element for placement on and identification of an organism, comprising:

at least one optically detectable marking code, wherein the marking element is a marking element for placement on the organism (refer to the references/arguments cited in claim 1) and wherein the marking code includes a plurality of regions with optically detectable and machine

evaluatable criteria (refer to the references/arguments cited in claim 1), Ekstrom does not teach wherein the marking element is of an annular shape.

Haw discloses a method for tagging fish for identification (column 2, lines 19 - 22), wherein the annular marking element includes a nonmagnetizable and plastic material (column 2, lines 58 – 61. Plastic is a nonmagnetizable material.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the marking element of Ekstrom to be an annular marking element as taught by Haw "...to facilitate shallow implantation, retention and visibility.", Haw, column 2, line 57.

Regarding **claim 32**, claim 1 recites identical features as in claim 32. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 32.

20. **Claim 24** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Haw et al. (US 4,750,490 A), in view of Jefferts et al. (US 3,313,301 A).

Regarding **claim 24**, while the combination between Ekstrom and Haw disclose the apparatus as claimed in claim 17, the combination does not teach wherein the annular marking element includes PVC.

Jefferts discloses an instrument to implant tags in macro-organisms (FIG. 3; column 1, lines 68 - 72) wherein the marking element includes PVC ("Color coding the basic tag material may be accomplished using any one of the numerous available relatively inert colorable plastic materials such as polyurethane, polyvinyl chloride...", column 3, line 54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the annular marking element of the combination between Ekstrom and Haw to include PVC as taught by Haw for color coding the basic tag material using "...relatively inert colorable plastic materials...", Haw, column 3, line 55.

21. **Claims 26, 27, 28,** and **29** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Haw et al. (US 4,750,490 A), in view of Scofield et al. (US 5,576,949 A).

Regarding **claim 26**, while Ekstrom discloses an apparatus for identifying an organism including a marking element (refer to references/arguments cited in claim 16), comprising:

a sensing element for optically detecting a marking code of the marking element (refer to references/arguments cited in claim 16); and

evaluation element for evaluating the detected optical signal, wherein the marking element is a marking element including at least one marking code, the marking code including a plurality of regions with optically detectable and machine evaluatable criteria (column 3, lines 7 - 11 wherein the different optically detectable regions are the separate pigments and/or dyes on the tag), Ekstrom does not teach wherein the marking element is of an annular shape.

Haw discloses a method for tagging fish for identification (column 2, lines 19 - 22), wherein the annular marking element includes a nonmagnetizable and plastic material (column 2, lines 58 – 61. Plastic is a nonmagnetizable material.).

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of Ekstrom to include a plastic nonmagnetizable annular marking

element as taught by Haw to not subject the marking element to magnetic force, which may impair the disclosed invention of Ekstrom mechanically and even biologically.

While the combination between Ekstrom and Haw disclose the invention above, the combination does not teach

(i) a sensing means for optically detecting a marking code of the marking element; and

(ii) evaluation means for evaluating the detected optical signal.

Scofield discloses system for animal evaluation through image acquisition that teaches

(i) using a CCD camera (column 6, lines 1 – 10); and

(ii) using software for evaluating a detected optical signal (FIG. 1C, element 40; column 6, lines 11 – 18. A computer would need programming instruction streams (software) to evaluate the detected optical signal)

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the apparatus of the combination between Ekstrom and Haw to include

(i) a CCD camera as taught by Scofield for optically detecting a marking code of the marking element because "...typical camera can times over the scene on the CCD are from 17 to 30 milliseconds in duration...", Scofield, column 9, line 61; and

(ii) software for evaluating a detected optical signal as taught by Scofield to perform specific tasks and interact separate pieces of hardware together.

Regarding **claim 27**, claim 17 recites identical features as in claim 27. Thus, references/arguments equivalent to those presented above for claim 17 are equally applicable to claim 27.

Regarding **claim 28**, claim 18 recites identical features as in claim 28. Thus, references/arguments equivalent to those presented above for claim 18 are equally applicable to claim 28.

Regarding **claim 29**, claim 1 recites identical features as in claim 29. Thus, references/arguments equivalent to those presented above for claim 1 are equally applicable to claim 29.

22. **Claim 30** is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Haw et al. (US 4,750,490 A), in view of Jefferts et al. (US 3,313,301 A) and Scofield et al. (US 5,576,949 A).

Regarding **claim 30**, claim 24 recites identical features as in claim 30. Thus, references/arguments equivalent to those presented above for claim 24 are equally applicable to claim 30.

23. **Claim 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination between Ekstrom (US 5,324,940 A) and Haw et al. (US 4,750,490 A), in view of Fearing et al. (US 2002/0066418 A1).

Regarding **claim 33**, while the combination between Ekstrom and Haw disclose the marking element of claim 31, the combination does not teach a label including the marking element.

Fearing discloses a visual and electronic animal identification tag (paragraph [0006], lines 1 - 5) wherein a label is includes the marking element (paragraph [0006], lines 5 - 7)

It would have been obvious to one of ordinary skill in the art at the time the invention was made for the marking element of the combination between Ekstrom and Haw to include a label (bar-code label) as taught by Fearing to have "...a unique identifier which identifies a particular animal.", Fearing, paragraph [0004].

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Rashid whose telephone number is (571) 270-1578. The examiner can normally be reached on 7:30 - 17:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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